

REMARKS

Present Status of the Application

The Office Action rejected pending claims 1, 3, 7 and 9-20. Specifically, the Final Office Action rejected claims 1, 3, 7, 9-11, 14, 15, 17 and 18 under 35 U.S.C. 103(a) as being unpatentable over Harris et al. (U. S. Patent 3,824,678) in view of Haight et al. (U.S. Patent 6,333,485). The Office Action also rejected claims 12, 13, 16, 19 and 20 under 35 U.S.C. 103(a) as being unpatentable over Harris et al. in view of Haight and Usami (U.S. Patent 6,440,773). Claims 1, 3, 7 and 9-20 remain pending in the present application, and reconsideration of those claims is respectfully requested.

Discussion of Claim Rejections under 35 USC 103

The Office Action rejected claims 1, 3, 7, 9-11, 14, 15, 17 and 18 under 35 U.S.C. 103(a) as being unpatentable over Harris et al. in view of Haight et al.. The Office Action also rejected claims 12, 13, 16, 19 and 20 under 35 U.S.C. 103(a) as being unpatentable over Harris et al. in view of Haight et al. and Usami. Applicants respectfully traverse the rejections for at least the reasons set forth below.

The Office Action in "*Response to Arguments*" (page 5) states that the unexpected results for the pulse separation time of 3~30 ps is not established. The Office Action also requests to show that the chosen pulse width is critical.

Applicant in previous Response has referred to pages 18-19 and FIG. 8 of the specification. Page 9 at last paragraph also discusses how the pulse separation time of 3~30 ps is chosen, so as to at least avoid re-adhering to the periphery of the hole. This choice of pulse separation can

effectively reduce the height of swelling. In order to reduce the height of swelling, under the pulse width of less than or equal to 1 picosecond, the pulse separation time of 3~30 ps is necessary to effectively reduce the swelling height. As shown in Fig. 8, when the pulse separation time is less than 3 ps or larger than 30 ps, the height of swelling is significantly increased. The pulse width by less than picoseconds, the heat diffusion can be almost neglected (page 8, lines 7+).

Therefore, it is believed that the evidence of unexpected results has been well established.

In re Harris et al., the Office Action has admitted that no pulse width is disclosed.

In re Haight et al., Haight et al. only disclose pulse width. However, Haight et al. never specifically discloses the pulse separation time of 3~30 ps as recited in claim 1.

Alternatively, Haight et al. never specifically considers the swelling height during laser cut. Haight et al. failed to specifically disclose the condition of pulse separation time of 3~30 ps for reducing the swelling height.

In addition, Haight et al. (col. 2, lines 3-5) considers that the break down voltage does not vary with the square root of pulse width in the femosecond. Indeed, Haight et al. never consider the swelling height, which is at least considered in the present invention. Haight et al. never disclose the “pulse separation time of 3~30 ps” as recited in claim 1.

For at least the foregoing reasons, it is believed that prior art references fail to disclose the “pulse separation time of 3~30 ps” with the pulse width of not more than 1 picosecond. And the unexpected result of at least significantly reducing the swelling height is also well established. Therefore, the invention should be allowed.

In re Usami, Usami is referred to reject dependent claims 12, 13, 16, 19 and 20 by further in combination with Harris et al. and Haight et al.. Usami discloses applying an adhesive to the back of the substrate and cutting the wafer with a laser. However, Usami still fails to supply the missing features in Harris et al. and Haight et al. as discussed above.

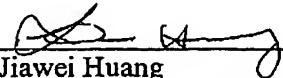
For at least the foregoing reasons, Applicants respectfully submits that independent claim 1 patently defines over the prior art references, and should be allowed. For at least the same reasons, dependent claims 3, 7, and 9-20 patently define over the prior art references as well.

CONCLUSION

For at least the foregoing reasons, it is believed that all the pending claims 1, 3, 7, and 9-20 of the invention patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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Jiawei Huang
Registration No. 43,330

J.C. Patents
4 Venture, Suite 250
Irvine, CA 92618
Tel.: (949) 660-0761
Fax : (949) 660-0809